



SEQUENCE LISTING

COPY OF PAPERS  
ORIGINALLY FILED

RECEIVED

APR 24 2002

TECH CENTER 1600/0300

<110> Tsichlis, Philip  
Grimes, Leighton H  
Zweidler-McKay, Patrick

<120> NUCLEIC ACID MOLECULE FOR ENHANCING GENE EXPRESSION

<130> FCCC96-11

<140> US 09/202,549

<141> 1999-10-12

<150> PCT/US97/10486

<151> 1997-06-17

<150> US 60/019,808

<151> 1996-06-17

<160> 70

<170> PatentIn version 3.1

<210> 1

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<220>

<221> misc\_feature

<222> (1)..(1)

<223> "n" is any nucleotide

<220>

<221> misc\_feature

<222> (9)..(9)

<223> "n" is any nucleotide

<400> 1  
naaatcacng ca

12

<210> 2

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<220>

<221> misc\_feature

<222> (9)..(9)

<223> "n" is "t" or "a"

<400> 2  
taaatacacng ca

12

<210> 3

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> An expression regulatory DNA segment

<220>

<221> misc\_feature

<222> (1)..(1)

<223> "n" is any nucleotide

<220>

<221> misc\_feature

<222> (3)..(3)

<223> "n" is any nucleotide

<220>

<221> misc\_feature

<222> (4)..(5)

<223> "n" is "g" "c" or "t", or is absent, or is an oligonucleotide of two or more nucleotides

<220>

<221> misc\_feature

<222> (6)..(6)

<223> "n" is "a" "g" or "c", or is absent, or is an oligonucleotide of two or more nucleotides

<220>

<221> misc\_feature

<222> (9)..(9)

<223> "n" is "a" "g" or "c", or is absent, or is an oligonucleotide of two or more nucleotides

<400> 3  
nannnnacng ca

12

<210> 4

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<220>

<221> misc\_feature

<222> (2)..(2)

<223> "n" is "a" or "c"

<220>

<221> misc\_feature

<222> (7)..(7)

<223> "n" is "inosine" or "c"

<220>

<221> misc\_feature

<222> (15)..(15)

<223> "n" is "a" or "t"

<400> 4

anaaaanaaa tcaatgcaia igcc

24

<210> 5

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 5

accatcacca cataaatcac tgcctatcct gtg

33

<210> 6

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding oligonucleotide

<400> 6

accatcacca cataaatcac tgcctatcct gtg

33

<210> 7

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding oligonucleotide

<400> 7

caccacatag atcactgcct atcc

24

<210> 8

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding oligonucleotide

<400> 8

caccacataa ctactgcct atcc

24

<210> 9

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding oligonucleotide

<400> 9

caccacataa ataactgcct atcc

24

<210> 10  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Gfi-1 binding oligonucleotide

<400> 10  
 caccacataa atcaatgcct atcc 24

<210> 11  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Gfi-1 binding oligonucleotide

<400> 11  
 caccacataa atcacttcct atcc 24

<210> 12  
 <211> 500  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 12  
 gcccgcctgg ctgaccgccc aacgaccccc cgggattgac gtcaataatg acgtatgttc 60  
 ccatagtaac gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa 120  
 ctgcccactt ggcagtacat caagtgtatc atatgccaaag tacgccccct attgacgtca 180  
 atgacggtaa atggcccgcc tggcattatg cccagtacat gaccttatgg gactttccta 240  
 cttggcagta catctacgta ttagtcatcg ctattaccat ggtgatgcgg ttttggcagt 300  
 acatcaatgg gcgtggatag cggtttgact cacgggggatt tccaagtctc caccaccattg 360

acgtcaatgg gagtttgttt tggcaccaaa atcaacggga ctttccaaaa tgtcgtaaca	420
actccgcccc attgacgcaa atgggcggtg ggcgtgtacg gtgggagggtc tatataagca	480
gagctcgttt agtgaaccgt	500

<210> 13

<211> 500

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 13

gcccgcctgg cggaccgccc aacgaccccc cgggattgac gtcaataatg acgtargrtc	60
ccatagtaac gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa	120
ctgcccactt ggcagtacat caagtgtatc atatgccaag tacgccccct attgacgtca	180
atgacggtaa atggccccgcc tggcattatg cccagtacat gaccttatgg gactttccta	240
cttggcagta catctacgta ttagtcatcg ctattaccat ggtgatgcgg ttttggcagt	300
acatcaatgg gcgtggatag cggtttgact cacggggagt tccaagtctc caccgccattg	360
acgtcaatgg gagtttgttt tggcaccaaa ctcaacggga ctttccaaaa tgtcgtaaca	420
actccgcccc attgacgcaa atgggcggtg ggcgtgtacg gtgggagggtc tatataagca	480
gagctcgttt agtgaaccgt	500

<210> 14

<211> 500

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 14

gcccgcctgg ctgaccgccc aacgaccccc cgggattgac gtcaataatg acgtatgttc	60
ccatagtaac gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa	120
ctgcccactt ggcagtacat caagtgtatc atatgccaag tacgccccct attgacgtca	180
atgacggtaa atggccccgcc tggcattatg cccagtacat gaccttatgg gactttccta	240

cttggcagta catctacgta ttagtcatcg ctattaccat ggtgatgcgg ttttggcagt 300  
 acatcaatgg gcgtggatag cggtttgact cacgggactt tccaagtctc cacccttattg 360  
 acgtcaatgg gagtttgttt tggcaccaaaa actaacggga ctttccaaaa tgtcgtaaca 420  
 actccgcccc attgacgcaa atgggcggta ggcgtgtacg gtgggagggtc tatataagca 480  
 gagctcgttt agtgaaccgt 500

<210> 15

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 15

caaatcaata ac

12

<210> 16

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 16

taaatctgtg tg

12

<210> 17

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 17

gaaatcagtt aa

12



<210> 18  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 18  
gaaatcagac ca 12

<210> 19  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 19  
gaaatcagtt aa 12

<210> 20  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 20  
tcaatcactg tc 12

<210> 21  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 21

aaaatccctg tt

12

<210> 22

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 22

aaaatcagaa aa

12

<210> 23

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 23

taaatctttg tt

12

<210> 24

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 24

caaatctgtg tt

12

<210> 25

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 25

aaaatctaag tt

12

<210> 26

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 26

taaatcaaag tt

12

<210> 27

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 27

gaaatcagta gt

12

<210> 28

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 28

aaaatctgag ct

12

<210> 29

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 29

caaatcagac cc

12

<210> 30

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 30

caaatcagac aa

12

<210> 31

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 31

aaaatcttag gc

12

<210> 32

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 32

taaatcctgg gt

12

<210> 33

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 33

ttaatcacgg tt

12

<210> 34

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 34

caaatccgag tt

12

<210> 35

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 35  
caaatcttag ca

12

<210> 36

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 36  
gaaatcaccc tg

12

<210> 37

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 37  
caaatcttag ca

12

<210> 38

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 38  
gaaatcaccc tg

12

<210> 39

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 39

taaatcctgg ga

12

<210> 40

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 40

gaaatcaggc ca

12

<210> 41

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 41

caaatcatac tt

12

<210> 42

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 42

caaatcaggg ct

12

<210> 43

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 43

caaatccccg cc

12

<210> 44

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 44

caaatcagtc ag

12

<210> 45

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 45

ctaattcattg tc

12

<210> 46

<211> 12

<212> DNA

<213> Artificial Sequence



<220>

<223> Gfi-1 binding sequence

<400> 46

gaaatcagag gg

12

<210> 47

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 47

caaatccggg tc

12

<210> 48

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 48

gaaatcagag ag

12

<210> 49

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 49

taaatcactc cc

12

<210> 5C  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Gfi-1 binding sequence

<400> 50  
ttaatcacag tc 12

<210> 51  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Gfi-1 binding sequence

<400> 51  
ggaatcacag ga 12

<210> 52  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Gfi-1 binding sequence

<400> 52  
taaatacatcg ca 12

<210> 53  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 53

aaaatcaggg ga

12

<210> 54

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 54

gaaatcagac cc

12

<210> 55

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 55

aaaatcagta aa

12

<210> 56

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 56

gaaatcaggc ca

12

<210> 57

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 57

aaaatcagta aa

12

<210> 58

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 58

caaatctcag tt

12

<210> 59

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 59

ccaatcacag ga

12

<210> 60

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 60

aaaatcaaag ca

12

<210> 61

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 61

ccaatcaggg aa

12

<210> 62

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 62

aaaatcaacg gg

12

<210> 63

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 63

gaaatccccg tg

12

<210> 64

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 64

gaaatcaccg tg

12

<210> 65

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 65

gaaatcccag ta

12

<210> 66

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 66

ctaatacacgg ac

12

<210> 67

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 67  
aaaatcagtc cg

12

<210> 68

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 68  
gaaatcgcg gc

12

<210> 69

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 69  
caaatccacg ct

12

<210> 70

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Gfi-1 binding sequence

<400> 70  
aaaatcggtg gt

12